

REMARKS

Claims 1-20 were previously pending in the present application. Claims 21-26 have been added by way of this Amendment. Accordingly, claims 1-26 are now pending.

Applicants have amended claims 1, 8, 10, 17 and 19 to expedite prosecution of the present application. No new matter was added when amending the claims. The submission of these amendments should not be interpreted as acquiescing to the Examiner's rejection.

The following remarks address the rejections of claims 1-20 as set out by Examiner in this Office Action and patentability of newly added claims 21-26.

Rejection of Claims 8, 10, and 11-18 under 35 U.S.C. § 112

The Examiner has rejected claims 8, 10 and 11-18 under 35 U.S.C. § 112 (paragraph 2) as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention.

Applicants have amended claims 8, 10, and 17 in various particulars addressing the issue as noted by Examiner and are appreciative of Examiner's comments to place the claims in condition for allowance. Support for amendments to claims 8 and 17 can be found at page 13 lines 17-21, corresponding figures, and elsewhere throughout the specification.

Rejections of Claims 1, 3, 7, 9, 10, 12, 16 and 18 under 35 U.S.C. § 102

The Examiner has rejected claims 1, 3, 7, 9, 10, 12, 16 and 18 under 35 U.S.C. § 102(a) based on the teachings of Teng, et al., (U.S. Patent 5,930,473).

Applicants have amended claim 1 to expedite prosecution of the present application. For example, claim 1 now recites that the request signal intended for

a host computer is intercepted at a node other than the host computer. In response to the request signal, control information (to control the data stream) is provided from the intercepting node to the request signal source instead of from the originally intended host computer. Support for the amendment can be found in Figs. 1 and 2, text at page 10 line 6 to page 12 line 2, and elsewhere throughout the specification. No new matter has been added as a result of amending the claims.

It is well accepted that a claim is not anticipated under 35 U.S.C. § 102 unless each and every aspect of the claimed invention is taught by a single reference. Additionally, a claim is not obvious under 35 U.S.C. § 103(a) unless the cited references teach or suggest every claim limitation and combination thereof. Accordingly, it is respectfully submitted that the invention as recited in amended claim 1 is neither anticipated nor obvious because it includes distinguishing limitations not taught or suggested by any of the cited references. In fact, even the combination of cited references does not teach every limitation of the claimed invention.

Teng '473 discloses a technique of coordinating transmission of data streams between clients and servers. Control is provided by Remote Procedure Commands (RPC) between the server and clients. Fig. 6 of the '473 patent more particularly illustrates this technique. As discussed in text at column 6 lines 7-13 (of Teng), video server 12 directs a manner in which a video program supplied by video camera 15 (via client 14-1 and LAN Segment 13) is stored in storage device 17.

As specifically pointed out by the Examiner, Teng '473 at column 12 lines 20-43 (see also FIG. 6) further describes how the remote procedure commands are sent on RPC channel 225 between presenter client 210 and video server 205 to retrieve a list of viewer clients currently viewing a presentation. For example,


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the presenter client 225 presumably transmits an RPC command to video server 205 on RPC channel 225 and presenter client 210, in response, receives a viewer list. Thus, commands are sent to an intended target (video server 205) where they are processed. In response to receiving the command, the originally intended target generates a reply.

In contradistinction to this cited technique, amended claim 1 recites that a request signal originally intended for a host computer is intercepted and serviced from a node other than the originally intended node (i.e., a node other than the host computer). This alleviates the host computer from having to receive, process, and, thereafter generate a reply to the request signal. Thus, processing capability of the host computer is available for other tasks.

As disclosed by Teng '473, signals are deliberately sent to video server 205 where they are processed. In response to receiving the signals at the intended target (e.g., video server 205), a viewer list is sent to presenter client 210. Thus, Teng does not teach a technique of intercepting and servicing a request signal at a node other than originally intended. Moreover, it is unclear how one could modify Teng '473 such that the request signal is intercepted since the reference discloses that RPC commands are received at a particular network. As discussed, the claimed invention offloads the task of servicing a request signal to another node of the network such as an agent acting on behalf of the host computer. Thus, the present invention as recited in claim 1 is distinguished over Teng '473.

The Examiner has cited Aharoni (U.S. Patent 6,014,694) in addition to Teng '473 to reject claim 4 of the present application. Specifically, the technique of using RSVP (bandwidth reservation protocol) as in Aharoni '694 was cited to reject the claimed invention.



As explained in the background of the present application invention and as used in Aharoni '694, RSVP techniques involves sending control information (such as bandwidth reservation information) from a host computer that is also either the source or recipient of an associated data stream. The host computer (source or recipient) of the data stream is burdened with generating and sending the control information in response to receiving the request signal.

Claim 1 is distinguished over Aharoni '694 (and RSVP techniques). For example, as previously discussed, claim 1 recites that the request signal is intercepted and serviced by a node other than an originally intended recipient. Aharoni '694 discloses that a request signal is serviced from an originally intended recipient such as a host computer generating the data stream. Thus, according to the present invention, the host computer is alleviated from having to provide control instructions. For this reason, the claimed invention is patentably distinct over Teng '473 and Aharoni '694.

It is submitted in view of the above amendment and remarks that claim 1 is novel and non-obvious as it incorporates techniques contrary to previously accepted wisdom and blueprints for the inventive method can not be found in the individual or combined cited references. Accordingly, it is submitted that independent claim 1 and corresponding dependent claims 2-9 are in condition for allowance over the prior art.

Similar amendments have been made to independent claim 19. For applicable reasons, it is submitted that independent claim 19 and corresponding dependent claim 20 are in condition for allowance.

Claim 10 has been amended to recite that an agent, on behalf of a host computer, generates and provides the control signal information in response to receiving the request signal instead of the host computer. This aspect of the


claimed invention similarly alleviates the originally intended host computer from having to receive, process, and, thereafter generate a reply to the request signal. It is submitted that claim 10 and corresponding dependent claims 11-18 are also in condition for allowance as none of the references teaches or suggests this technique.

Patentability of New Claims 21-26

Newly submitted claim 21 includes the limitation that a routing mechanism at an intermediate node of a network sends a request signal to a host agent disposed at a node of the network other than the source or recipient. Support for the claim can be found in Figs. 1 and 2, text at page 8 through 11, text at page 13 lines 13-15, and elsewhere throughout the specification.

In contradistinction to the cited prior art references, the claimed invention alleviates the source or recipient from having to receive, process, and, thereafter generate a reply to the request signal. None of the references discloses a technique of generating a request signal at an intermediate node of a network and servicing the request signal using an agent that acts on behalf of the host computer. Thus, it is respectfully submitted that claim 21 is in condition for allowance.


Newly submitted claim 22 further distinguishes the claimed invention (as in claim 1) over the prior art because it recites intercepting a request signal from a request signal source disposed at an intermediate node of the network and that the request signal source routes the data stream from the host computer to a recipient computer. Support for claim 22 can be found in Figs. 1 and 2, text at page 8 line 7 to page 11 line 15, and elsewhere throughout the specification. No new matter is being added as a result of adding this claim.



The invention as recited in claim 22 is further advantageous because it offers flexibility in routing the data stream. For example, the request signal source is disposed at an intermediate node of the network. Control information is then provided at the intermediate node how to route the data stream accordingly. In comparison, Teng '473 discloses that the RPC commands are generated from a terminal node (presenter client 210) of the network which is sent to another terminal node (video server 205) of the network. Thus, it is respectfully submitted that claim 22 is neither anticipated nor obvious in light of the prior art. Consideration and allowance of new dependent claim 22 is also respectfully requested. It is submitted that claim 24 is allowable for similar reasons.

Newly submitted claim 23 further distinguishes the claimed invention (as in claim 1) over the prior art because it recites that the request signal is intercepted at an intermediate node of the network. Support for claim 23 can be found in Figs. 1 and 2, text at page 8 line 7 to page 11 line 15, and elsewhere throughout the specification. No new matter is being added as a result of adding this claim.

The invention as recited in claim 23 is further advantageous because a host agent disposed at an intermediate node of the network intercepts or receives the request signal to alleviate the host computer from having to receive, process, and, thereafter generate a reply to the request signal. This technique of receiving and replying to the request signal at the intermediate node reduces traffic in the network because a request signal is intercepted prior to reaching the host computer. Neither of the cited references recites this technique. Thus, it is respectfully submitted that claim 23 is neither anticipated nor obvious in light of the prior art. Consideration and allowance of new dependent claim 23 is also respectfully requested. It is submitted that claim 26 is allowable for similar reasons.




Newly submitted claim 26 further distinguishes the claimed invention (as in claim 25) over the prior art because it recites that the request signal travels along a path exclusive of the data stream. Support for claim 25 can be found in Fig. 7, text at page 16 lines 3-29, and elsewhere throughout the specification. No new matter is being added as a result of adding this claim.

The invention as recited in claim 26 is advantageous because it eliminates a source of congestion that reduces bandwidth of to the data stream. For example, the request signal travels along a different path to an agent so that the bandwidth can instead be used for transmitting the data stream. It is respectfully submitted that claim 26 is neither anticipated nor obvious in light of the prior art. Consideration and allowance of new dependent claim 26 is also respectfully requested.

Conclusion

In view of the foregoing remarks, this Application should be in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after this Amendment, that the Application is not in condition for allowance, the Examiner is respectfully requested to call the Applicants' Representative at the number below.

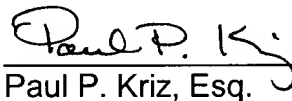
Applicants hereby petition for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-0901.



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If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned Attorney at (508) 366-9600, in Westborough, Massachusetts

Respectfully submitted,



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APPENDIX
MARKED UP VERSION OF AMENDMENTS

Amendments to the Specification Under 37 C.F.R. § 1.121(b)(1)(iii)

Please amend the abstract of the application as follows:

Techniques are provided for controlling a data stream without communicating with [the] a host generating the data stream. [In one arrangement,] A host agent (associated with the host generating the data stream) runs in a computerized data processing device and receives a request signal from a request signal source (e.g., a router seeking direction on how to handle [a] the data stream). [The request signal requests, from a host computer that is different than the computerized data processing device, control information for controlling a manner in which the request signal source transfers the data stream.] In response to the request signal, the host agent generates a control signal which includes the control information for controlling the manner in which the request signal source transfers the data stream. [The host agent provides the control signal to the request signal source to individually control the manner in which the request signal source transfers the data stream among multiple data streams transferred by the request signal source. Since the host computer is not needed to provide the control information, resources of the host computer are left available for other operations and bandwidth between the host computer and the request signal source is conserved. In one arrangement, the host agent acts on behalf of a sending host or an originator of the data stream. In another arrangement, the host agent acts on behalf of a receiving host or an intended recipient of the data stream. Preferably, computerized data processing device and the request signal source reside together, e.g., form at least part of the same data communications device. In such an arrangement, the request and control signals do not to pass through the network. Rather, they can be contained within

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a single cabinet, e.g., as multiple processes which use non-network techniques such as Interprocess Communications (IPC) mechanisms to exchange request and control signals.]

Amendments to the Claims Under 37 C.F.R. § 1.121(c)(1)(ii)

Please amend the claims as follows:

1. (Amended) [In a data communications device, a] A method for controlling a data stream[,] comprising the steps of:

[receiving] at a node in a network, intercepting a request signal from a request signal source, the request signal intended for a host computer that would otherwise respond with [requesting, from a host computer that is different than the data communications device,] control information for controlling a manner in which the request signal source transfers the data stream;

from the node intercepting the request signal:

generating a control signal in response to intercepting the request signal, the control signal including the control information for controlling the manner in which the request signal source transfers the data stream; and

providing the control signal to the request signal source to individually control the manner in which the request signal source transfers the data stream among multiple data streams transferred by the request signal source.

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8. (Amended) The method of claim 1 wherein data within the [data stream] request signal indicates that the host computer is an intended recipient of the [data stream] request signal.

10. (Amended) A data communications device[,]comprising:
multiple network ports;
memory that stores an application; and
a controller coupled to the multiple network ports and the memory,
an agent process running on the controller when the controller operates in
accordance with the application stored in the memory such that the agent:
receives a request signal from a request signal source, the
request signal intended for a host computer that would otherwise
respond with [, the request signal requesting, from a host computer
that is different than the data communications device,] control
information for controlling a manner in which the request signal
source transfers a [the] data stream;
generates a control signal in response to receiving the
request signal, the control signal including the control information
for controlling the manner in which the request signal source
transfers the data stream; and
provides the control signal to the request signal source to
individually control the manner in which the request signal source
transfers the data stream among multiple data streams transferred
by the request signal source.

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17. (Amended) The data communications device of claim 10 wherein data within the [data stream] request signal indicates that the host computer is an intended recipient of the [data stream] request signal.
19. (Amended) A computer program product that includes a computer readable medium having instructions stored thereon for controlling a data stream, such that the instructions, when processed by a controller [data communications device], cause the controller [data communications device] to perform the steps of:
- intercepting [receiving] a request signal from a request signal source, the request signal intended for a host computer that would otherwise respond with [requesting, from a host computer that is different than the data communications device,] control information for controlling a manner in which the request signal source transfers the data stream;
- generating a control signal in response to intercepting the request signal, the control signal including the control information for controlling the manner in which the request signal source transfers the data stream;
- and
- providing the control signal to the request signal source to individually control the manner in which the request signal source transfers the data stream among multiple data streams transferred by the request signal source.
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